Iron Wheel Water Conservation Plan

January 27, 2012 SPH

I. Introduction

A. Contact Information

1.Name and location of system.

Iron Wheel Mobile Home Park, Danville, NH

2.Owner of system and mailing address.

Tom Waters, #52 Iron Wheel, Danville, NH 03819

3.Name and mailing address of designer of the water conservation plan.

Same as above.

B. System Overview

1. Reason for new source.

BRW-1 and BRW-2 originally served 56 mobile homes. Three additional wells were drilled to serve additional homes. Iron Wheel is seeking after-the-fact approval for the connection of additional wells.

2. Number of connections existing and proposed for each of the following classes:

a) Residential; 85

Approved existing connections = 56 ** will be reduce by 11 connections

Unapproved existing connections = 28**11 connections to be transferred from existing 56

Proposed future connections = 10 for future growth if I sell park, no plans to develop myself

b) Industrial/commercial/institutional; and

None

c) Municipal.

None

3. Description of any connections that currently receive or will receive more than 20,000gpd.

None

C. Water Use Trends and Supporting Data/Population Trends

Water meter reading supports 125 gpd max per home. Water usage for the new sections are based on meter readings from the old section. The old section is an adult park based on 2 people per home as is the new section.

1. Existing , if applicable, and anticipated seasonal fluctuation in water use and reason for fluctuation.

None Water meter reading is based on summer usage.

2. Anticipated growth in population and seasonal fluctuations in population.

An additional 8 homes are being developed, the proposed future construction of 10 homes are for future growth only if I sell the park. I have no plans to develop this land.

3. Maximum day yield of existing sources based on 24-hour pumping.

100,800 for all wells

4. Average daily water use.

Avg daily water use for Tues, Wed, and Thurs is 9030gpd, 10,750gpd for Fri, Sat, Sun.

5. Maximum daily water use.

10, 750 per day

6. Minimum hourly flows (if available).
358 gallon per hour

D. Source Meters

1. Name designation of each water source.
Pre-existing active approved wells:
Well EPA#001 (BRW-1 NE of PS, Pump House 1)
Well EPA#002 (BRW-2 SW of PS, Pump House 1)
Wells serve 56 connections.
Unapproved active wells:
Well EPA#004 (BRW-4 SW of Hub Hollow Pump House 2) –Currently supplies 10 connections. Connections will be transferred to Well EPA#005 (BRW -5 W of Spindle St. – Pump House 3)and to be disconnected from water supply and used for irrigation.
Well EPA#005 (BRW -5 W of Spindle St. – Pump House 3) – Will supply the 10 connections transferred from BRW-4, and the 8 homes it presently supplies plus 11 homes from an existing system, epa Well #001 and #002.
Well EPA #006 (BRW- 6 NE of Spindle St. – Pump House 4) – Will supply 9 homes in addition to one home currently supplied.

2 Meter make, model, size, flow range, and date of last calibration for each existing source meter.
BRW -1) Neptune T10 ¾" 20gpm installed 8/11
BRW -2) Neptune T10 ¾" 20gpm installed 8/11

3. Meter make, model, size, and flow range for each new water source (if known).
BRW -5) Neptune T10 1" 50gpm to be installed during pump test
BRW -6) Neptune T10 1" 50gpm to be installed during pump test

4. Frequency that source meters will be tested/calibrated.
1" Neptune T-10 meters will be calibrated or replaced after 5 years or 1,000,000 gallons, whichever comes first. If the meter is calibrated rather than replaced, the meter will continue to be calibrated yearly
3/4" Neptune T-10 meters will be calibrated or replaced after 5 years or 750,000 gallons, whichever comes first. If the meter is calibrated rather than replaced, the meter will continue to be calibrated yearly

5.Frequency that source meters will be read (at least every 30 days).
Will be read at least every 30 days

6. Statement that source meters will be selected, installed, and maintained in compliance with "Manual of Water Supply Practices M6, Water Meters-Selection, Installation, Testing, and Maintenance," (American Water Works Association, 1999).
Meters will be installed and maintained in compliance with "Manual of Water Supply Practices M6, Water Meters-Selection, Installation, Testing, and Maintenance," (American Water Works Association, 1999).

II. System side Management

B. Leak Detection

Background Information

In the 50years of installing and repairing water mains, I find that plastic pipes do not break in winter like cast iron. Plastic flexes, they have rubber o-ring joints that allow for stretching and contracting. I also find that leaks usually occur at curb cocks and gate valves. In past 30yrs frozen pipes have also been the culprit. In 30years the only leaks that have occurred were above ground.

I personally installed all the water mains in Iron Wheel Park. They have all been installed five foot deep with on foot of sand below, two feet of sand above. Every section was pressure tested with air for twenty four hours including curb cocks gate valves and blow offs. All the material we used has been of the best quality: 200 lb psi John Manville water mains, brass with stainless steel ball valves. House connections are 200 lb psi plastic piping with brass compression fittings. We have not had an underground leak in thirty years.

Septic Tank Method

Leaks will be determined during septic tank pumping by having homeowner shut off all use of water and **looking** to see if there is flow out septic pipe from house. If there is water flow and all water is shut off leaky faucets or toilets will be investigated. Tanks are pumped on a regular basis, three per month from April through October.

Water Usage Method

At the pump houses, leaks will be determined by checking water usage through meters by calculating gallon flow per day for a week duration during each month. Meters will be checked at approximately 10a.m and gallon flow per day per home will be calculated and recorded. On a weekday agf is 105gpd per home, on a weekend day agf is 124gpd and on a Monday holiday agf is 139gpd per home. If water use exceeds average gpd per home for 7 days, then the cause/location of the suspected leak will be investigated.

Also, anytime pumps are running more than normal a gallon flow check will be conducted. The cycle time for transfer pump to atmospheric tanks 60 gal in two minutes and moves 1.5 inches in site gauge. If transfer pump cycles more than every ten minutes during peak demand it will prompt an investigation. Peak demand would be 10:00am.

Pressure Method

In early morning, approximately 3am, inspections will be made to see if pumps are running. We will do this every four months including Dec, April, August. When checking water use at 3am, the atmospheric storage tank and pressure tank will be manually topped off with override switches. The site gauges will be watched on pressure tanks to see if there is any drop in water lever for half an hour. If the transfer pumps run more than once in a half hour then a leak will be suspected. This same procedure will be done for all pump houses.

Leak Location Identification
The following methods will be used to identify the location of a suspected leak until the leak is found. When a leak is found it will be repaired within 60 days unless a waiver is obtained in accordance with Env-Wq 2101.09

1. Visual leak detection.
    a. In the summer months, first all homes will be checked for outside running hoses. Second, a panel under each home will be removed to observe any water running on the ground.
    b. In the winter months, homes of owners who have gone to Florida will be checked for frozen pipes. If frozen pipes are identified the water to the home will be shut off at the curb cock.

2. Audio Leak Detection
    a. The water to each house will be shut off one at a time and running water will be listened for by ear at each curb cock.

    b. The above listening procedure will continue at each street curb cock and blow off.

3. Leak Isolation
    a. Water will be shut off one street at a time and water flow will be recorded and analyzed to determine if water flow is still up. When the leak has been isolated, then steps 1 & 2 will be repeated and if the leak is not found, Step 4 will be implemented.

4. Formal Acoustic Leak Detection Survey
    a. If the above methods fail to identify a leak, a professional will be retained to conduct an acoustic leak detection survey. As the system is all pvc, the acoustic leak detection survey will be done by listening at contact points (ex. curb cocks) and by ground microphoning between contact points.

    b. Acoustic leak detection will be conducted in accordance with "Manual of water Supply Practices M36, Water Audits and Loss Control Programs" (American Water Works Association, 2009).

Record Keeping
Records will be maintained indicating dates the septic tank method, water usage method, and pressure method are implemented. Records will also be maintained indicating the date a leak is suspected, the date the leak is identified, the date the leak is repaired, and the approximate size of the leak (gpm) and location of the leak (ex. valve, water main, hose).

Every three years from the date of the water conservation approval, a water conservation compliance report will be submitted to DES. The records will be utilized to document compliance with leak detection methodology.

C. Pressure Management

1. Existing minimum distribution pressure (anticipated pressure for the new landlord owned systems).
   From 40 to 60 psi
2. Existing maximum distribution pressure (anticipated for new landlord owned systems).
   60 psi
3. How is pressure currently monitored and how will pressure continue to be monitored?
   Pressure gauges, yes
4. What method will be used to reduce pressures in zones found to be in excess of 80 psi?
   Lower regulator to 60 psi
5. What will be the timeframe for reduction (at least within 1 year of source water approval)?
   Within 30 days
6. If pressure reduction is not Technically feasible, please explain why and describe what additional steps the water system will take to monitor and repair leakage within these zones?
   It is feasible and easily done.

D. Intentional Water Loss

1. Are there "bleeders" used within the system at dead ends to improve water quality or prevent freeze-up? If yes, what looping opportunities exist?
   Yes, none
2. Are the storage tanks intentionally allowed to overflow because of system hydraulics or water quality concerns? If yes, what opportunities exist for the installation of altitude valves or tank mixing systems?
   No

III. Consumption Side Management

A. Educational Outreach Initiative

1. Informational materials what will be used.
   We will distribute WD-DWGB-26-17 Water Conservation at Home (attached) or other Water Efficiency fact sheet found on the DES website or EPA WaterSense website.
2. Rate of dissemination.
   Materials will be distributed with the Consumer Confidence Report in the summer and the other in the winter with the Rent Notice
3. Does the water system intend on becoming a WaterSense partner?
   http://www.epa.gov/watersense/
   No
4. Will a rebate program be offered to replace older fixtures with WaterSense certified fixtures?
   No
5. Will customer audits be offered?
   No
6. Other outreach plans?
   None

IV. Zoning Ordinance / Bylaws

A. Are connections to the water system subject of any of the following water efficiency ordinances or bylaws? Yes

1. Indoor
   a) Water efficient fixtures beyond the existing plumbing code.
   Low Flush Toilets, Restricted Shower heads and Faucets
2. Landscaping
   a) Minimum topsoil requirements.
   Top soil is free in the park and designed for low water use and has no fertilizer
   b) Use of native/drought tolerant plants and grasses.
   c) Area and slope restrictions for turf grass.
3. Irrigation System
   a) Prohibition or restriction to irrigation systems
   (See attached 7a and 7b)
   b) Require soil moisture sensors.
   No
   c) Require rain sensors.
   No

V. Water Use Restrictions

A. What is the water system's plan relative to implementing water restrictions?
(See attached 7a and 7b)

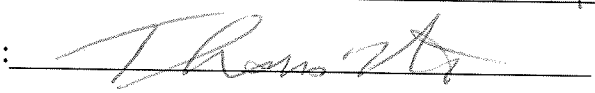
B. Who is responsible for enforcing restrictions?
Management

VI. Reporting and Implementation

A. Include the following statements:
   1. "The water system will submit a form supplied by DES once every three years documenting how compliance with the requirements of Env-Wq2101 is being achieved."
   Yes
   2. "Activities outlined in the water conservation plan will be completed by water system personnel under the supervision of a certified water system operator."
   Yes

I certify that I have read this Water Conservation Plan, understand the responsibilities of the water system as referenced in the plan, and that all information provided is complete, accurate, and not misleading.

Signature Owner Name (print): Thomas Waters

System Owner Signature:  Date: 2-15-2019